Chapter 8: Cellular Energy Outline Quiz #2b

*Section 2:* Photosynthesis – Light Independent Reactions

1. The light independent reactions are often referred to as the \_\_\_\_\_\_.
2. During the light Independent reactions organic molecules such as \_\_a\_\_\_ are produced using energy stored in \_\_b\_\_\_ and \_\_\_c\_\_.
3. \_\_\_a\_\_ taken in from the atmosphere combines with \_\_b\_\_\_ (a 5 carbon compound) to form 12 molecules of \_\_c\_\_\_ which are 3 carbon molecules.
4. The process expressed in question number three is known as \_\_\_\_\_.
5. Twelve molecules of \_\_\_a\_\_ is formed from 12 molecules of PGA with the use of \_\_\_b\_\_ energy stored in ATP and NADPH. During this step, the ATP is responsible for supplying \_\_\_c\_\_, and NADPH is responsible for supplying \_\_d\_\_\_.
6. \_\_a\_\_\_ or other organic molecules are formed when \_\_b\_\_\_(#) of the 12 G3P molecules leave the cycle to be used for its production.
7. The \_\_\_a\_\_ molecules of G3P not used for production of organic molecules is converted back into \_\_b\_\_\_ (#) of \_\_\_c\_\_ using the energy from 6 \_\_d\_\_\_ molecules.
8. The cycle continues when six molecules of RuBP combine with new molecules of \_\_\_\_\_ from the atmosphere.
9. Some plants have alternative photosynthesis pathways that live in \_\_\_\_\_ environments.
10. Alternative pathways such as the \_\_\_a\_\_ and \_\_\_b\_\_ are needed to minimize the loss of \_\_c\_\_\_ without sacrificing the uptake of \_\_d\_\_\_.
11. During the \_\_\_a\_\_ pathway \_\_b\_\_\_ is fixed to a 4-C molecule before entering the Calvin cycle.
12. C4 Plants partially close their stomata while the \_\_a\_\_\_ molecules are transferred to special cells where they release the \_\_b\_\_\_.
13. During the \_\_\_a\_\_ pathway \_\_b\_\_\_ is fixed into organic compounds before entering the Calvin Cycle. These plants close their \_\_\_c\_\_ during the day while the organic acids release the carbon dioxide so it can enter the \_\_d\_\_\_.
14. **Type II:** Summarize both the light dependent and the light independent reactions for a classmate that was not here this week. Explain to them how the phases work. Be sure to use the following words and **underline** them when used: **light energy, chemical energy, ATP, NADPH, Electron acceptor(s), photosystem I, photosystem I, ATP synthetase, water molecule, O2, CO2, chemiosmosis, pigments (chlorophyll and accessory), RuBP, PGA, G3P, Glucose, Phosophate, Hydrogen (H+), and Calvin cycle. *Include a diagram to your answer for clarity.***